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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,854	04/27/2005	Kazuhiko Honda	52433/791	1971
26646	7590	07/16/2007		
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER SAVAGE, JASON L	
			ART UNIT	PAPER NUMBER
			1775	
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			07/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,854	HONDA ET AL.	
	Examiner	Art Unit	
	Jason L. Savage	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

Claim 9 has been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4-23-07.

Applicant argues that the restriction is traversed since the present application is a 35 USC 371 of PCT/JP03/13732 and therefore PCT unity of invention rules apply. Applicant states the unity of invention exists since the process of claim 9 is specially adapted for the manufacture of the product of claims 1-4.

However, as was recited in the restriction requirement, the article claim of Group I lacks the special technical feature that the Ti-Zn base intermetallic compound is added to a plating bath such as recited in the method of Group II. Furthermore, as is demonstrated in the rejections below, claims 1-4 are anticipated by the prior art. Therefore the special technical feature relied upon in the claims of Group I is not novel lack a unity of the inventions.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of Honda et al (U.S. Patent No. 7,238,431). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of Honda recite a corrosion resistant hot dip plated galvanized steel have a zinc alloy surface coating comprising 4-20 % Al, 1-10% Mg and an intermetallic compound of Al in an amount of 0.001% to 0.5% (claim 1). Honda further claims the intermetallic compound may be Ti-Al and may have the formula of $Ti(Al_{1-x}Si_x)_3$ (claim 5) .

Although Honda does not explicitly recite the claimed Ti content in the coating, it teaches the addition of Ti to for the Ti-Al intermetallic and total amount of intermetallic formed with sufficient specificity so as to read on the titanium content range claimed by Applicant.

Regarding the limitation in claims 2-4 and 7, Honda recites the Si content may be between 0.001-2.0 mass% (claim 5) which overlaps the claimed Si content range.

Regarding the limitation that the alloy surface coating of Honda have the recited phases Al, Zn, ZnMg and MgSi such as is claimed; since it teaches the same alloying

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materials in the same amounts claimed by Applicant, the formation of the recited phases would have been inherent.

Regarding claims 5 and 6, Honda teaches the formation of the Ti-Al intermetallic having the claimed formulas wherein the x content could be 0 or greater than zero providing an intermetallics such as is claimed.

Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7-12 of copending Application No. 10/501,188 (see PGPB 2004/0258949). Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/501,188 recites a corrosion resistant galvanized steel have a zinc alloy surface coating comprising 2-19 % Al, 1-10% Mg and between 0.001-2% Si (claim 7). Application No. 10/501,188 further claimed that Ti may be contained in an amount of between 0.001-0.2% which overlaps the ranges claimed by Applicant particularly for Si and Ti. Application No. 10/501,188 further claims that phases of Al/Zn/Zn₂Mg and Mg₂Si are formed (claim 9).

As such, Application No. 10/501,188 would read on the claimed invention since it teaches the same alloying additions in amounts which overlap the ranges claimed by Applicant.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, the claim recites that the Ti-Al base intermetallic compound according to any one of claims 1 to 4 is TiAl_3 . However claims 2-4 require that Si be contained in the surface layer so as to form a Mg_2Si phase. As such, it is believed that the intermetallic compound would be expected to be of the formula $\text{Ti}(\text{Al}_{1-x}\text{Si}_x)_3$ wherein x is some amount greater than 0. Should claim 5 be made dependent on claim 1 alone, this rejection would be withdrawn.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fumishiro et al (JP 2002-187234 English Machine Translation).

Fumishiro teaches a corrosion resistant hot-dip galvanized steel having a zinc alloy surface coating comprising 4-22 mass% Al, 1-4% Mg, up to 0.1% Ti and up to 0.5% Si (Abstract and Claim 1). Fumishiro further teaches that phases of Al/Zn/Zn₂Mg are formed (DETAILED DESCRIPTION par[0013]).

Regarding the limitation that a Ti-Al intermetallic compound is formed in the recited phases, since Fumishiro teaches the same alloying materials in the same amounts claimed by Applicant, the formation of the Ti-Al intermetallic compound in the recited phases would have been inherent. The Patent and Trademark Office can require Applicant to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on Applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 U.S.P.Q. 431 (CCPA 1977).

In the alternative, if there is a difference, it would be minor and the claimed article would have been obvious over Fumishiro. Specific claimed alloy, whose compositions

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are in such close proportions to those in the prior art that, prima facie one skilled in the art would have expected them to have the same properties, must be considered to have been obvious from known alloys, Titanium Metals Corporation of America V. Banner, 227 USPQ 773.

Regarding claims 2-4 and 7, as was set forth above, Fumishiro teaches that up to 0.5% of Si may be contained in the plating coating. As such, the claimed Mg_2Si phase and other phases would have inherently formed since the prior art teaches the same alloying materials in the same amounts claimed by Applicant,

Regarding claim 5, Fumishiro exemplifies embodiments containing no Si (Detailed Description par. [0031]). As such, the Ti-Al intermetallic formed would be expected to be the $TiAl_3$ such as is claimed.

Regarding claim 6, Fumishiro exemplifies embodiments containing Si and no Si (Detailed Description par. [0031]). The embodiments containing no Si would meet the claim limitation wherein $X=0$ and the embodiments containing the recited Si amount would meet the limitation wherein the intermetallic has the formula that is claimed.

Regarding claim 8, although Fumishiro is silent to the size of the dendrites in the Al phase, as evidenced in the specification on pages 10-11 of the instant Application, the formation of the Ti-Al base intermetallic promotes the crystallization of dendritic nuclei of the phase materials resulting in dendrites having sizes within the range claimed.

Claims 1 and 5-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Komatsu et al. (WO98/26103).

Komatsu teaches a corrosion resistant hot-dip galvanized steel have a zinc alloy surface coating comprising 4-10 wt % Al, 1-4% Mg and adding proper amounts of Ti as well (Abstract). Komatsu further teaches that phases of Al/Zn/Zn₂Mg are formed (Abstract). Komatsu also exemplifies embodiments wherein the Ti content added to the coating layer is 0.001-0.100% (p. 34, Table 5).

Regarding the limitation that a Ti-Al intermetallic compound is formed in the recited phases, since Komatsu teaches the same alloying materials in the same amounts claimed by Applicant, the formation of the Ti-Al intermetallic compound in the recited phases would have been inherent.

In the alternative, if there is a difference, it would be minor and the claimed article would have been obvious over Komatsu.

Regarding claims 5 and 6, Komatsu exemplifies embodiments containing no Si (p. 34, Table 5)]. As such, the Ti-Al intermetallic formed would be expected to be TiAl₃ such as is claimed or having the composition recited in claim 6 wherein $x = 0$.

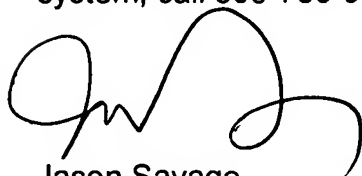
Regarding claim 7, as was set forth above, since Komatsu teaches the same alloying material in the same amounts claimed by Applicant, the formation of the Ti-Al intermetallic in the claimed Zn-Al eutectoid reaction structure would have been inherent.

Regarding claim 8, although Komatsu is silent to the size of the dendrites in the Al phase, as evidenced in the specification on pages 10-11, the formation of the Ti-Al base intermetallic promotes the crystallization of dendritic nuclei of the phase materials resulting in dendrites having sizes within the range claimed.

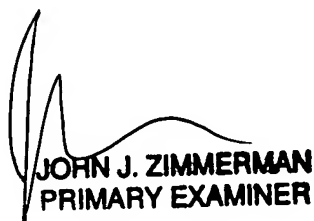
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Savage
7-9-07



JOHN J. ZIMMERMAN
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